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BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER	
KARIMI, PEGEMAN	

ART UNIT	PAPER NUMBER
2629	

NOTIFICATION DATE	DELIVERY MODE
12/31/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/525,070	ARAKAWA ET AL.	
	Examiner	Art Unit	
	Pegeman Karimi	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 October 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment filed on 10/04/2007 has been entered and considered by the examiner.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 28 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 28 recites the limitation "said clearing" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Objections

3. Claim 17 is objected to because of the following informalities:

It is understood that the word "vaiue" is meant to be "value".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 15, 16, 18-21, and 24-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Gest (U.S. Patent No. 5,333,247).

As to claim 15, Gest teaches a method for translating input motion information (increment in an appropriate direction) into movement of a display object (scrolling), (col. 8, lines 26-29) comprising:

establishing a direction-specific leading-in area (21A, 21B, 21C, and 21D) based on an initial motion direction (e.g. upper region) in a first direction obtained from input motion information (col. 8, lines 46-48),

determining a direction of motion after the initial motion direction (e.g. scrolling one line up if the user selecting region 21B) by evaluating whether subsequent coordinates of an input motion (e.g. 21B, 21D, and 21A) fall within the direction-specific leading-in area established by the initial motion direction (col. 8, lines 46-54),

switching (e.g. switching from scroll up to scroll down) the direction-specific leading-in area of the first direction (e.g. scrolling up by moving the cursor into 21B area) for a direction- specific leading-in area of a second direction (e.g. scrolling down by moving the cursor into 21D area) in response to changes in the amount of motion input in the first direction (21B) and the amount of motion input in the second direction (21D), (col. 8, lines 46-56), (when the user selects region 21B the data is scrolled up after that the scroll box position is updated and then the user selects region 21D where the data is scrolled down, Figs. 4B and 4C), and

altering a shape (top triangle between the diagonal lines 20) of the established direction-specific leading-in area (region 21B) in response to continuous motion input in the first direction (col. 8, lines 46-48).

As to claim 16, Gest teaches the display object comprises a pointer (18).

As to claim 18, Gest teaches said altering step further comprising:

altering a shape (e.g. bottom triangle between the diagonal lines 20) of a direction-specific leading-in area of the second direction (21D) in response to continuous motion input in the second direction after a switching step occurs (col. 8, lines 46-51), (when the user selects region 21B the data is scrolled up after that the scroll box position is updated and then the user selects region 21D where the data is scrolled down, Figs. 4B and 4C).

As to claim 19, Gest teaches said determining step comprising:

determining that input motion is translated as motion only in the direction covered (increment in an appropriate direction) by the currently established direction-specific leading-in area (regions 21A, 21B, 21C, and 21D) if the coordinates of the motion fall within the leading-in area (e.g. cursor arrow pointing in region 21B) defined for the direction covered by the currently established direction- specific leading-in area (scroll one line toward the beginning), (col. 8, lines 46-48), or as motion only in the direction not covered by the leading-in area if the coordinates of the motion fall outside the

leading-in area (outside of regions 21A-21D) defined for the direction covered by the currently established direction-specific leading-in area (col. 8, lines 33-36).

As to claim 20, Gest teaches the motion component in the first direction being in the x direction (e.g. the user may select the direction to be in the direction of region 21A, which is in the x direction, col. 8, lines 51-54) of a coordinate system and the motion component in the second direction being in the y direction of a coordinate system (the user may select the direction to be in the direction of region 21B, which is in the y direction, col. 8, lines 46-48).

As to claim 21, Gest teaches the direction-specific leading-in area for the x direction (21A) comprising an area along the x-axis bounded by the lines y=ax and y=-ax where ' a' is a number greater than 1 (Fig. 2D clearly shows that the diagonal lines, 20, are in a y=ax and y=-ax position) and the direction-specific leading-in area for the y direction (21B) comprising an area along the y-axis bounded by the lines y=x/a and y=x/(-a) where a is 'a' number greater than 1 (Fig. 2A clearly shows that the diagonal lines, 20, are in a $y=\frac{x}{a}$ and $y=\frac{x}{-a}$ position and the value of a is certainly greater than 1 in order to have the pictured slopes).

As to claim 24, Gest teaches the motion component in the first direction being in the y direction of a coordinate system (e.g. the user may select the direction to be in the

direction of region 21B, which is in the y direction, col. 8, lines 46-48) and the motion component in the second direction being in the x direction of a coordinate system (e.g. the user may select the direction to be in the direction of region 21A, which is in the x direction, col. 8, lines 51-54).

As to claim 25, Gest teaches the direction-specific leading-in area for the x direction (21A) comprising an area along the x-axis bounded by the lines y=ax and y=-ax where' a' is a number greater than 1 (Fig. 2D clearly shows that the diagonal lines, 20, are in a y=ax and y=-ax position) and the direction-specific leading-in area for the y direction (21B) comprising an area along the y-axis bounded by the lines y=x/a and y=x/(-a) where a is 'a' number greater than 1 (Fig. 2A clearly shows that the diagonal lines, 20, are in a $y=\frac{x}{a}$ and $y=\frac{x}{-a}$ position and the value of a is certainly greater than 1 in order to have the pictured slopes).

As to claim 26, Gest teaches further comprising:

setting the value of 'a' to an initial value (e.g. the value of 1); and increasing the value of 'a' (increasing the value of 'a' in equation y=ax causes the slope of diagonal lines 20 to change from Fig. 2B to a steeper position in Fig. 2C) while subsequent coordinates of input motion (regions 21A-21D) continue to fall within the currently established direction-specific leading-in area (the regions 21A-21D fall within the current leading-in area of Fig. 2c).

As to claim 27, Gest teaches clearing prior memory of motion (prior memory of motion = data scrolls in the direction of region 21A) input from the system in response to user input (after the user selects for example step 621 the cursor moves toward top and then the scroll box is updated, Step 70), (col. 8, lines 54-56).

As to claim 28, Gest teaches said clearing further comprising:

setting the value of 'a' to an initial value (e.g. the value of 1) and

reverting to a state (60) where a direction-specific leading-in area (21A-21D) has not yet been established (the region outside of 21A-21D, which are outside of the scroll box 12, has not yet established, until the scroll box is updated in step 70).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 17, 22, 23, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gest in view of McCambridge (U.S. Patent No. 5,565,887).

As to claim 31, Gest teaches a method for translating input motion information (increment in an appropriate direction) into movement of a display object (scrolling), (col. 8, lines 26-29) comprising:

establishing a direction-specific leading-in area (regions 21A-21D) based on input motion information (e.g. upper region) by determining an initial direction of motion (e.g. step 621, motion toward the upper region).

determining, if the established direction-specific leading-in area (21A determined at step 624) is for the x direction (step 644 is in the positive x direction), that input motion information having an x component and a y component (21A and 21C are x direction regions; 21B and 21D are y direction regions) is translated as motion only of the x component if the coordinates of the motion fall within the leading-in area defined for the x direction (if the cursor arrow falls in region 21A the movement is in x direction), (col. 8, lines 51-54), and

determining that input motion information having an x component and a y component is translated as motion exclusively of the y component if the coordinates of the motion fall outside the leading-in area defined for the x direction (when the user selects regions 21B and 21D it causes movement in positive and negative y direction), (col. 8, lines 46-51),

where the direction specific leading-in area for the x direction (regions 21A and 21C) comprises an area along the x-axis bounded by the lines y=ax and y=-ax where 'a' is a number greater than 1 (Fig. 2D clearly shows that the diagonal lines, 20, are in a y=ax and y=-ax position), and

determining, if the established direction-specific leading-in area is for the y direction (regions 21B and 21D), that input motion information having an x component and a y component is translated as motion only of the y component if the coordinates of

the motion fall within the leading-in area defined for the y direction (when the user selects regions 21B and 21D it causes a movement in y direction), (col. 8, lines 46-51), and

determining that input motion information having an x component and a y component is translated as motion exclusively of the x component (if the user selects regions 21A and 21C it causes a movement in x direction) if the coordinates of the motion fall outside the leading-in area defined for the y direction (regions 21A and 21C are outside of the regions 21B and 21D, so a selection in regions 21A and 21C cases a movement in the x direction), (e.g. col. 8, lines 51-54).

where the direction-specific leading-in area for the y direction comprises an area along the y-axis (regions 21B and 21D) bounded by the lines y=x/a and y=x/(-a) where a is 'a' number greater than 1 (regions 21B and 21D are bounded by diagonal lines 20, Fig. 2A clearly shows that the diagonal lines are in a $y=\frac{x}{a}$ and $y=\frac{x}{-a}$ position and the value of a is certainly greater than 1 in order to have the pictured slopes).

x-axis bounded by the lines y=ax and y=-ax to an area along the y-axis bounded by the lines y=x/a and y=x/(-a) (regions 21A and 21C cause the movement in X direction and regions 21B and 21D cause the movement in y direction), (regions 21A-21D are bounded by diagonal lines 20, which are in a form of equation (y=ax, y=-ax in Fig. 2C and $y=\frac{x}{a}$ and $y=\frac{x}{-a}$ in Fig. 2B), and

setting the value of 'a' to an initial value (e.g. the value of 1) each time a conversion between horizontal and vertical leading-in areas occurs (col. 8, lines 49-56);

altering a shape (e.g. regions between the diagonal lines 20) of the established direction-specific leading-in area (21A-21D) in response to continuous motion input in a direction (col. 8, lines 26-29, in step 70 the scroll box position is updated at the end of each scrolling) by increasing the value of 'a' (increasing the value of 'a' in equation y=ax causes the slope of diagonal lines 20 to change from fig. 2B to a steeper position in Fig. 2C) while subsequent coordinates of motion inputs (regions 21A-21D) continue to fall within the currently established direction-specific leading-in area (the regions 21A-21D fall within the current leading-in area of Fig. 2C); and

clearing prior memory of detected motion (prior memory of detected motion = data scrolls in the direction of a selected region) from the system (after the user selects for example step 621 the cursor moves toward top and then the scroll box is updated, Step 70), (col. 8, lines 54-56). by setting the value of 'a' to an initial value (the value of 'a' is a value to form diagonal lines 20) and

reverting to a state (60) where a direction-specific leading-in area (21A-21D) has not yet been established (the region outside of 21A-21D, which are outside of the scroll box 12, has not yet established, until the scroll box is updated in step 70).

Gest does not teach comparing the absolute value of an initial input motion in x direction and y direction. McCambridge teaches comparing the absolute value of an

initial input motion component in the x direction and the absolute value of an initial input motion component in the y direction (col. 5, lines 48-50) and taking the initial direction of motion to be the direction whose component has a greater absolute value (col. 5, lines 52-56) and establishing a direction-specific leading-in area along the axis of the initial direction of motion (the motion in x direction is greater than the change in y direction so, the cursor moves in x direction);

switching the direction-specific leading-in area (e.g. switching from x direction to y direction) of the x direction for the direction- specific leading-in area of the y direction when the absolute value of detected motion in the x direction decreases by a threshold amount (value being less than the selected factor multiplied by the absolute value) and motion in the y direction is detected, *or* when the absolute value of detected motion in the y direction increases by a threshold amount and the absolute value of detected motion in the x direction does not increase by changing the boundaries of the leading in area from an area along the x-axis. (Gest teaches switching the direction-specific leading-in area of the x and y directions when the absolute value of motion decreases in the x direction and motion in the y direction is detected, col. 5, lines 52-56; and col. 5, lines 66-67 to col. 6, lines 1-6)

switching the direction-specific leading-in area of the y direction for the direction-specific leading-in area of the x direction (col. 5, lines 52-56) when the absolute value of detected motion in the y direction decreases by a threshold amount (threshold amount =

selected factor multiplied by the absolute value of the change in y direction), (y is less than the threshold value) and motion in the x direction is detected (motion in the x direction = absolute value of the change in the x direction), *or* when the absolute value of detected motion in the x direction increases by a threshold amount and the absolute value of detected motion in the y direction does not increase by changing the boundaries of the leading-in area from an area along the y-axis. (Gest teaches switching the direction-specific leading-in area of the x and y directions when the absolute value of detected motion in the y direction decreases and motion in the x direction is detected), (motion in the x direction = absolute value of the change in the x direction).

Therefore it would have been obvious to one of ordinary skilled in the art at the time the invention was made to have added the absolute value comparison of McCambridge to the display device of Gest because the greater change in the x and y components to initially move the cursor in either horizontal or vertical directions (abstract, lines 7-9).

As to claim 17, Gest teaches said establishing step comprising:

determining an initial motion direction (e.g. step 621). Gest does not teach comparing the absolute value of initial motion components. McCambridge teaches comparing the absolute value of an initial motion component in the first direction and the absolute value of an initial motion component in the second direction (col. 5, lines 48-50) and taking the initial motion direction to be the component with the greater absolute

value (col. 5, lines 52-56); and establishing a direction-specific leading-in area along the axis of the initial direction of motion (the motion in x direction is greater than the change in y direction so, the cursor moves in x direction).

As to claim 22, McCambridge teaches switching step (e.g. switching from x direction to y direction) further comprising:

converting the direction-specific leading-in area of the first direction (x direction) into a direction-specific leading-in area of the second direction (y direction) when the absolute value of motion in the first direction decreases by a threshold amount (value being less than the selected factor multiplied by the absolute value) and there is motion in the second direction (col. 5, lines 52-56; and col. 5, lines 66-67 to col. 6, lines 1-6).

As to claim 23, McCambridge teaches said switching step further comprising:

converting the direction-specific leading-in area of the first direction (x direction) into a direction-specific leading-in area of the second direction (y direction) when the absolute value of motion in the second direction increases by a threshold amount and the absolute value of motion in the first direction does not increase (col. 6, lines 2-6).

8. Claims 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gest in view of McCambridge (U.S. Patent No. 5,565,887).

As to claim 29, Gest does not mention a two-dimensional motion in a three dimensional motion environment. Rekimoto teaches the input motion information (50) further comprising:

two-dimensional motion information (a map is shown in a two dimensional display of device 50) in a three-dimensional motion environment (the motion environment controlled by x, y, and z direction gyros is converted to a display in a two-dimensional display). Therefore it would have been obvious to one of ordinary skilled in the art at the time the invention was made to have added the three-dimensional motion environment in a two-dimensional motion information of Rekimoto to the input motion information of Gest because the map is actually broadened and it is viewed from various angles can be displayed on the screen ([0074], lines 8-9).

As to claim 30, Rekimoto teaches the input motion information further comprising:

angular velocity information created by moving a pointing device (e.g. gyro 1a, [0027], lines 3-5) in a direction ([0033], lines 1-6).

Response to Arguments

9. Applicant's arguments, see page 13, paragraph 3, filed on 10/04/2007, with respect to rejection(s) of claim 15 under 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further

consideration, a new ground(s) of rejection is made in view of existing reference Gest (U.S. Patent No. 5,333,247).

In view of amendment of new claims 15-31, the reference of Gest has been used for new ground of rejections.

On Page 15, paragraph 1 the applicant argues that Gest doe not teach or suggest display object movement on a screen other than to indicate means of activating the disclosed scrolling method. Gest teaches a display object movement on a screen (col. 8, lines 44-51).

Applicant argues that Gest does not address "altering a shape of the established direction-specific leading in area in response to continuous motion input".

Gest teaches altering a shape (top triangle between the diagonal lines 20) of the established direction-specific leading-in area (e.g. region 21B and 21D) in response to continuous motion input in the first direction (col. 8, lines 46-48).

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Inquires

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pegeman Karimi whose telephone number is (571) 270-1712 and direct fax number is (571) 270-2712. The examiner can normally be reached on Monday-Thursday 8:00am - 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh Nguyen can be reached on (571) 272-7772. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

CHANH D. NGUYEN
SUPERVISORY PATENT EXAMINER